What is claimed is:

1. A motor controller, comprising:

a synchronous motor;

a feed back detector mounted on said synchronous motor for detecting a position and a velocity of a rotor of said synchronous motor;

magnetic pole position detection means for detecting a magnetic pole position of the rotor of said synchronous motor from the output signal of said feed back detector;

inverter means for controlling an electric power to be supplied to said synchronous motor according to said magnetic pole position detected by said magnetic pole position detection means;

magnetic pole position estimation means for estimating the magnetic pole position of the rotor of said synchronous motor from the induced voltage of stator windings of said synchronous motor; and

magnetic pole position abnormality detection means for detecting an abnormality of said feed back detector by always comparing said magnetic pole position detected by said magnetic pole position detection means and the estimated magnetic pole position estimated by said magnetic pole position estimation means;

wherein, when said magnetic pole position abnormality detection means detects the abnormality of said feed back detector, said inverter means controls the electric power to be supplied to said synchronous motor according to said

estimated magnetic pole position obtained by said magnetic pole position estimation means.

2. The motor controller according to claim 1, wherein said magnetic pole position abnormality detection means determines that said feed back detector is abnormal in the case where the absolute value of the difference between said magnetic pole position detected by said magnetic pole position detection means and the estimated magnetic pole position estimated by said magnetic pole position estimation means is larger than a predetermined stipulated value.

3. The motor controller according to claim 2, wherein in the case where said feed back detector is an encoder, said magnetic pole position detection means calculates a mechanical angle of the encoder from the output signal of the encoder, and calculates an electrical angle representing the position of the magnetic pole from the obtained mechanical angle.

4. The motor controller according to claim 3, wherein said magnetic pole position estimation means calculates correlated voltage from the induced voltage of said stator windings, calculates a non-loaded estimated electrical angle from these correlated voltages, and calculates the loaded electrical angle from this estimated electrical angle.

5. The motor controller according to claim 3, wherein the

motor controller further comprises velocity calculating means for calculating a real angular velocity of said synchronous motor from said loaded electrical angle and the number of magnetic poles of the rotor of said synchronous motor and, when said magnetic pole position abnormality detection means determines that said feed back detector is abnormal, said loaded electrical angle is inputted to said velocity calculating means and the real angular velocity calculated by said velocity calculating means is inputted to said inverter means.